

What Is Claimed Is:

1. A colored shaped article composed of a curable resin, which comprises a plurality of layers formed by lamination and shaping of the curable resin,

5 wherein at least one layer of said plurality of layers has a non-colored region where no colorant is added and a colored region formed by adding a colorant; and
said colored region is formed so that the color of said colorant can be recognized from all directions of said colored shaped article when completed.

10 2. The colored shaped article composed of a curable resin, according to claim 1, wherein
said colorant is any of non-volatile ink using a pigment for ceramics, colorless finely powdered
dye which is colored under UV irradiation, compositions prepared by mixing an ink using a
pigment or dye as the raw material with a liquid-phase, curable resin, compositions prepared
by mixing a pigment or dye with a liquid-phase solvent other than a curable resin, and having
15 good affinity with the curable resin, compositions prepared by mixing colored fibers or color
beads with a liquid-phase, curable resin, and compositions prepared by mixing colored fibers or
color beads with a liquid-phase solvent other than a curable resin, and having good affinity with
the curable resin.

20 3. A process for producing colored shaped article from curable resin, said
colored shaped article comprising a plurality of layers formed by lamination and shaping of a
curable resin, wherein at least one layer of said plurality of layers has a non-colored region
where no colorant is added and a colored region formed by adding a colorant, said process
comprising the steps of:

forming said colored region in said curable resin in a liquid-phase state by forming the colored region so that the color of said colorant can be recognized from all directions of said colored shaped article when completed, and then curing the curable resin; and curing the liquid-phase, curable resin and forming the non-colored region.

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4. A process for producing colored shaped article comprising a plurality of layers formed by lamination and shaping of a curable resin, wherein at least one layer of said plurality of layers has a colored region formed by adding a colorant, this process comprising the steps of:

10 forming an external wall by curing a region of prescribed width along the contour line of said colored region;
adding a colorant to a liquid-phase region inside said external wall; and
curing said colored region.

15 5. The process for producing colored shaped article according to claim 4, wherein a step of forming partition walls by curing the partition zones of prescribed thickness inside the region which is to be colored is implemented prior to the step of adding a colorant.

20 6. The process for producing colored shaped article according to claim 4, wherein said colored region is formed by adding a prescribed amounts of the colorant at prescribed distance intervals by using an addition mechanism displaced by feedback-corrected pulse signals.

7. The process for producing colored shaped article according to claim 4,
wherein said step of adding a colorant comprises the steps of:

removing the liquid-phase, curable resin present in said region which is to be
colored; and

5 adding the colorant into said region after the removal of said curable resin.

8. The process for producing colored shaped article according to claim 4,
wherein the addition of colorants of a plurality of colors into said region which is to be colored
is conducted by adding the colorants in a sequence starting from the colorant with a color of the
10 highest priority based on the predetermined order of priority.

9. A shaping apparatus for forming a desired shaped article by lamination and
shaping of a liquid-phase, curable resin, this apparatus comprising an addition mechanism that
can be displaced in at least the horizontal direction to add a liquid-phase or powdered colorant
15 to said liquid-phase, curable resin.

10. The shaping apparatus according to claim 9, wherein said addition mechanism
is a needle mechanism comprising a first colorant supply hole extending in the axial direction
thereof and a second colorant supply hole perpendicular to the axial direction.

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11. The shaping apparatus according to claim 10, wherein said needle mechanism
has a strength and shape that enable the needle mechanism to be inserted into said liquid-phase,
curable resin and to be displaced three-dimensionally in said curable resin.